

Data sheet

Shut-off valves in stainless steel

Types SVA-S SS and SVA-L SS



In certain specific areas such as outdoor applications and corrosive atmospheres, such as coastal installations, there is a need for high surface protection to prevent failure due to corrosion.

Today's food safety standards often call for daily treatment with detergents to protect against bacteria growth, again producing a need for high surface protection.

SVA-S/L SS are angleway and straightway stainless steel shut-off valves, which are designed to meet all industrial refrigeration application requirements.

The valves are designed to give favourable flow characteristics and are easy to dismantle and repair when necessary. The valve cone is designed to ensure perfect closing.

Features

- Applicable to HCFC, HFC, R717 (Ammonia), R744 (CO₂) and all flammable refrigerants.
- Optional accessories:
 - Heavy duty industrial hand wheel for frequent operation.
 - Cap for infrequent operation.
- Available in angleway and straightway versions with Standard neck or Long neck (DN 15 to DN 40) for insulated systems.
- Designed to give favourable flow conditions.
- Internal backseating enables replacement of the spindle seal whilst the valve is active, i.e. under pressure.
- Housing is made of stainless steel approved for low temperature operations.
- Easy to disassemble for inspection and service.
- SVA-S/L SS shut-off valves can accept flow in either direction.

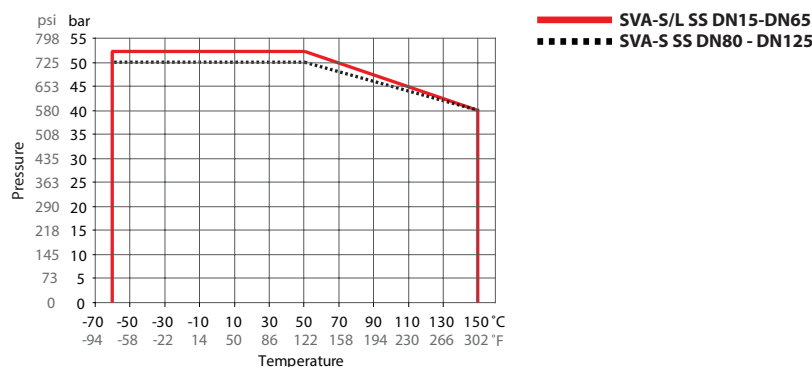
- Butt-weld DIN and ANSI connections.
- Maximum allowable working pressure and temperature range:

DN 15-65	52 bar (754 psi) at -60°C/+50°C (-76°F/+122°F)
DN 80-125	50 bar (725 psi) at -60°C/+50°C (-76°F/+122°F)

For SVA-S/L SS see the relation between PS and temperature in the curve on page 2.

- Temperature range: -60/+150°C (-76 +302°F).
- Compact and light valves for easy handling and installation.
- Classification: DNV, CRN, BV, EAC etc. To get an updated list of certification on the products please contact your local Danfoss Sales Company.

Pressure and temperature range



Design

Connections

Available with the following connections:

- Butt-weld DIN (EN 10220)
DN 15 - 125 (½ - 5 in.)
- Butt-weld ANSI (B 36.19M)
DN 15 - 100 (½ - 4 in.)

Housing

Made of stainless steel approved for low temperature operations.

Valve cone

The valve cone can be turned on the spindle, thus there will be no friction between the cone and the seat, when the valve is opened and closed. A teflon tightening ring provides perfect sealing at a minimum closing momentum.

Spindle

Made of polished stainless steel, ideal for O-ring sealing. Furthermore, parts of the spindle are heat treated to obtain anti-abrasive/adhesive properties.

Packing gland

The stainless steel packing gland comprises a spring loaded seal packing gland which ensures a perfect tightness in the range: -60/+150°C (-76/+302°F). The packing glands are equipped with a scraper ring to prevent penetration of dirt and ice into the packing gland.

Pressure Equipment Directive (PED)

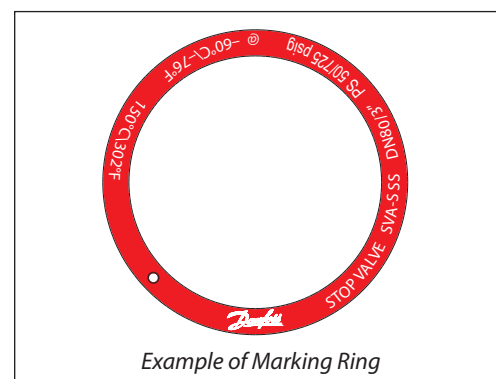
The stainless steel valves are approved and CE marked in accordance with the Pressure Equipment Directive - 97/23/EC.

Installation

It is recommended that the valves be installed in the direction of flow indicated by the arrow on the valve body. The valve can be installed in the opposite direction but this slightly reduces the k_v -value (C_v -value).

The valve is designed to withstand high internal pressure. However, the piping system in general should be designed to avoid liquid traps and reduce the risk of hydraulic pressure caused by thermal expansion.

For further information refer to installation instructions for SVA-S/L SS.



SVA-S/L SS			
Nominal bore	DN ≤ 25 mm (1 in.)	DN32-80 mm (1¼ - 3 in.)	DN100 - 125 mm (4-5 in.)
Classified for	Fluid group I		
Category	Article 3, paragraph 3	II	III

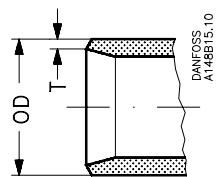
Technical data

- **Refrigerants**
Applicable to HCFC, HFC, R717 (Ammonia), R744 (CO₂) and all flammable refrigerants. For further information please contact your local Danfoss Sales Company.
- **Temperature Range**
-60/+150°C (-76/+302°F).

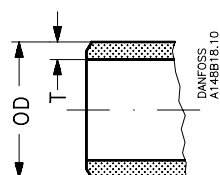
- **Pressure range**
The valves are designed for max. working pressure 52 bar g (754 psi g).

Connections

DIN



ANSI



Size	OD	T
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Butt-weld DIN (EN 10220)

15	mm	21.3	2.3
½	in.	0.839	0.091
20	mm	26.9	2.3
¾	in.	1.059	0.091
25	mm	33.7	2.6
1	in.	1.327	0.103
32	mm	42.4	2.6
1¼	in.	1.669	0.102
40	mm	48.3	2.6
1½	in.	1.902	0.103
50	mm	60.3	2.9
2	in.	2.37	0.11
65	mm	76.1	2.9
2½	in.	3	0.11
80	mm	88.9	3.2
3	in.	3.50	0.13
100	mm	114.3	3.6
4	in.	4.50	0.14
125	mm	139.7	4.0
5	in.	5.50	0.16

Size	OD	T
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Butt-weld ANSI (B 36.19M, SCHEDULE 40)

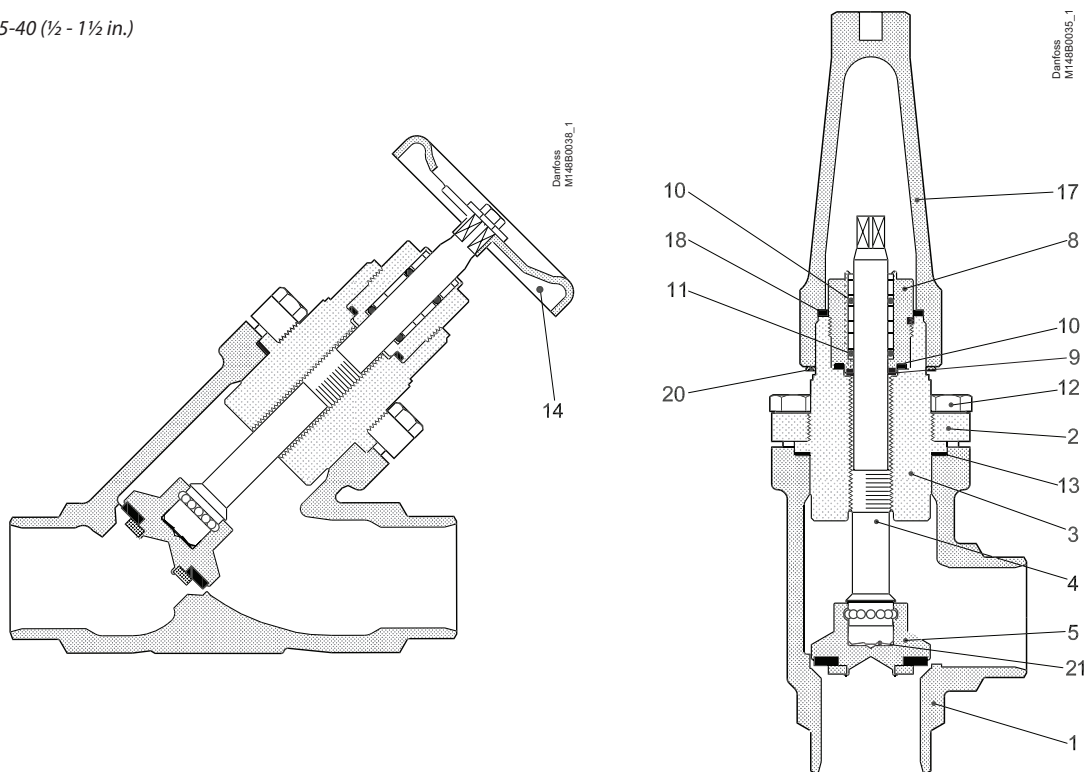
15	mm	21.3	2.8
½	in.	0.839	0.11
20	mm	26.9	2.9
¾	in.	1.06	0.11
25	mm	33.7	3.5
1	in.	1.33	0.14
32	mm	42.4	3.6
1¼	in.	1.67	0.14
40	mm	48.3	3.7
1½	in.	1.9	0.15

Butt-weld ANSI (B 36.19M, SCHEDULE 10)

50	mm	60.3	2.8
2	in.	2.37	0.11
65	mm	73	3.1
2½	in.	2.87	0.12
80	mm	88.9	3.1
3	in.	3.5	0.12
100	mm	114.3	3.1
4	in.	4.5	0.12

Material specification

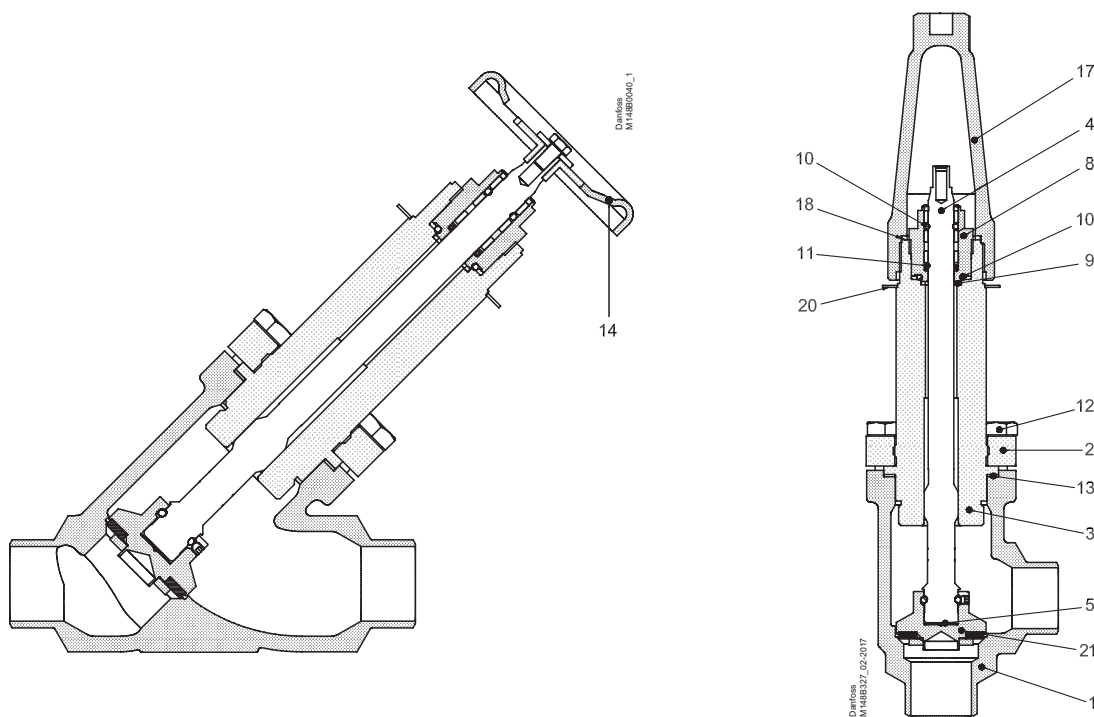
SVA-S SS 15-40 (1/2 - 1 1/2 in.)



No.	Part	Material	EN	ISO	ASTM
1	Housing	Stainless steel	GX5CrNi19-10 EN10213-4		AISI 304
2	Bonnet, Flange	Stainless steel	X5CrNi18-10 EN10088		AISI 304
3	Bonnet, Insert	Stainless steel	X8CrNiS18-9 DIN 17440		AISI 303
4	Spindle	Stainless steel	X8CrNiS18-9 DIN 17440	Type 17, 683/13	AISI 303
5	Cone	Steel			
8	Packing gland	Stainless steel	X8CrNiS18-9 10088	Type 17 683/13	AISI 303
9	Packing washer	Aluminium			
10	O-ring	Cloroprene (Neoprene)			
11	Spring loaded Teflon ring	PTFE			
12	Bolts	Stainless steel	A2-70	A2-70	Type 308
13	Gasket	Fiber, Non-asbestos			
14	Handwheel	Steel			
17	Cap	Aluminium			
18	Gasket for cap	Nylon			
20	Identification ring	Stainless steel			
21	Disk spring	Steel			

Material specification

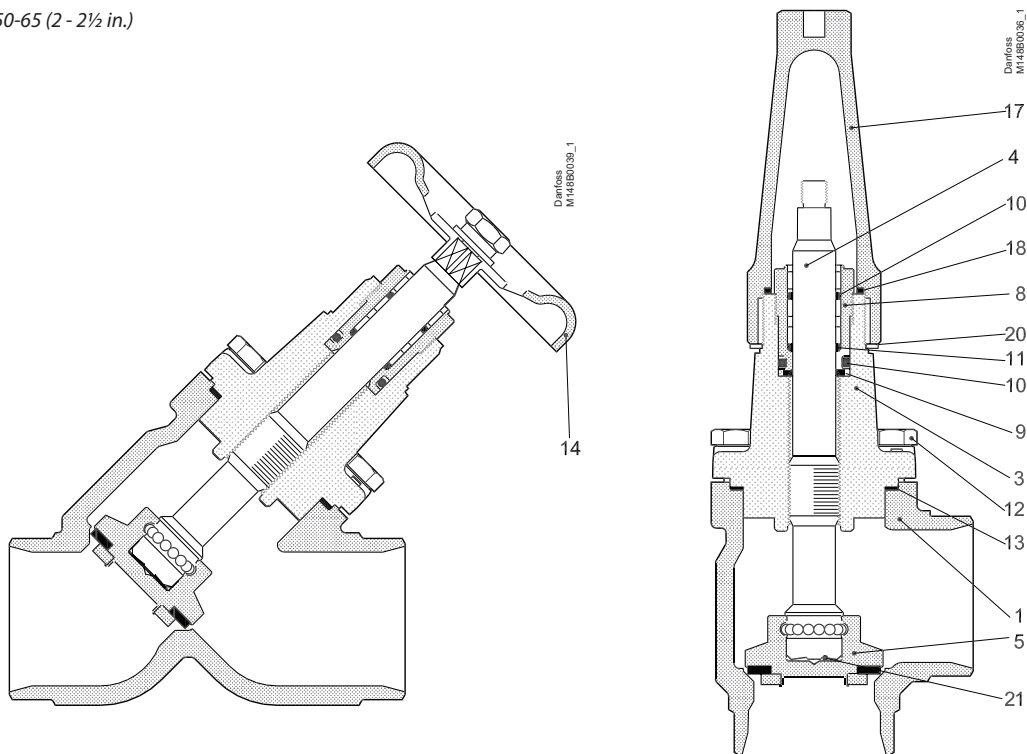
SVA-L SS 15 - 40 (1/2 - 1 1/2 in.)



No.	Part	Material	EN	ISO	ASTM
1	Housing	Stainless steel	GX5CrNi19-10 EN10213-4		AISI 304
2	Bonnet, Flange	Stainless steel	X5CrNi18-10 EN10088		AISI 304
3	Bonnet, Insert	Stainless steel	X8CrNiS18-9 DIN 17440		AISI 303
4	Spindle	Stainless steel	X8CrNiS18-9 DIN 17440	Type 17, 683/13	AISI 303
5	Cone	Steel			
8	Packing gland	Stainless steel	X8CrNiS18-9 10088	Type 17 683/13	AISI 303
9	Packing washer	Aluminium			
10	O-ring	Cloroprene (Neoprene)			
11	Spring loaded Teflon ring	PTFE			
12	Bolts	Stainless steel	A2-70	A2-70	Type 308
13	Gasket	Fiber, Non-asbestos			
14	Handwheel	Steel			
17	Cap	Aluminium			
18	Gasket for cap	Nylon			
20	Identification ring	Stainless steel			
21	Disk spring	Steel			

Material specification

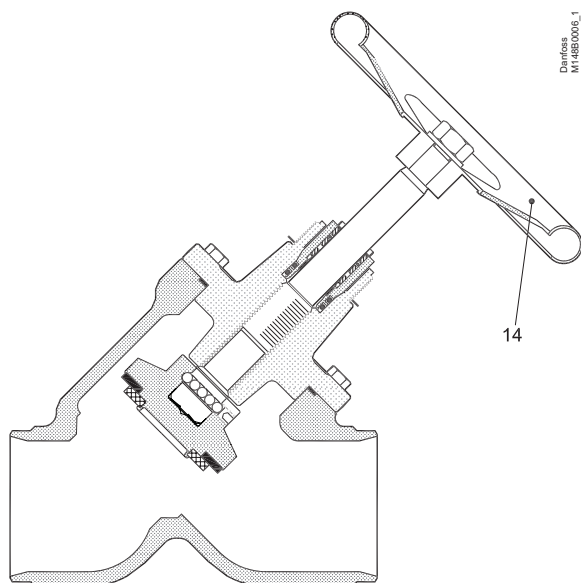
SVA-S SS 50-65 (2 - 2½ in.)



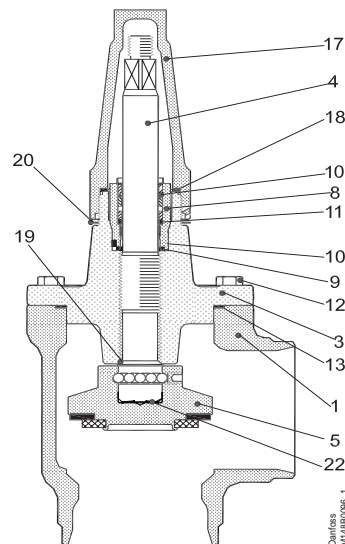
No.	Part	Material	EN	ISO	ASTM
1	Housing	Stainless steel	GX5CrNi19-10 EN10213-4		AISI 304
3	Valve bonnet	Stainless steel	GX5CrNi19-10 EN10213-4		AISI 304
4	Spindle	Stainless steel	X8CrNiS18-9 DIN 17440	Type 17, 683/13	AISI 303
5	Cone	Steel			
8	Packing gland	Stainless steel	X8CrNiS18-9 10088	Type 17 683/13	AISI 303
9	Packing washer	Aluminium			
10	O-ring	Cloroprene (Neoprene)			
11	Spring loaded Teflon ring	PTFE			
12	Bolts	Stainless steel	A2-70	A2-70	Type 308
13	Gasket	Fiber, Non-asbestos			
14	Handwheel	Steel			
17	Cap	Aluminium			
18	Gasket for cap	Nylon			
19	Locking nut	Steel			
20	Identification ring	Stainless steel			
21	Disk spring	Steel			

Material specification

SVA-S SS 80 - 125 (3 - 5 in.)



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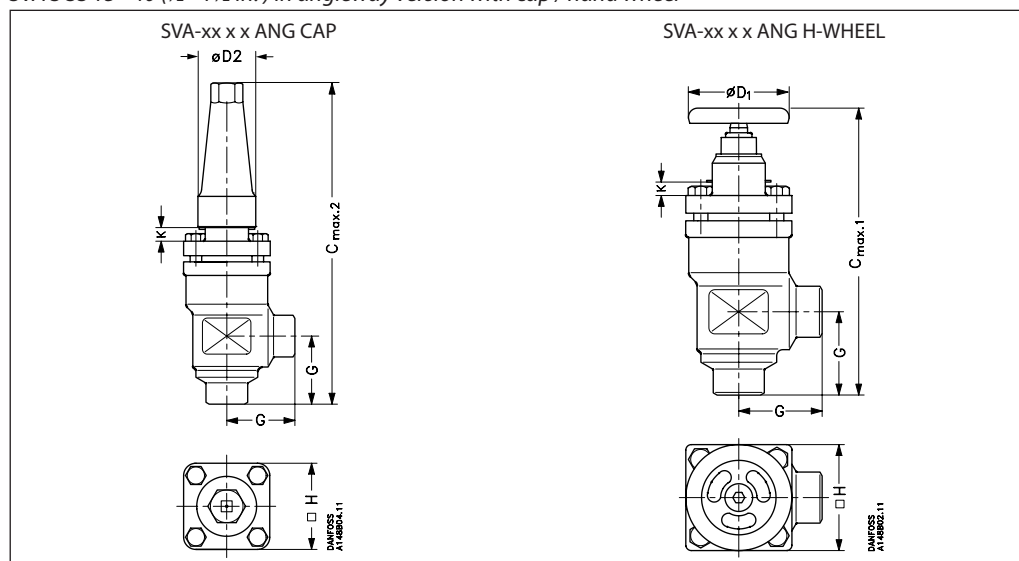


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M148B008_1

No.	Part	Material	EN	ISO	ASTM
1	Housing	Stainless steel	GX5CrNi19-10 EN10213-4		AISI 304
3	Valve bonnet	Stainless steel	GX5CrNiMo19-11-2 EN10213-4		AISI 304
4	Spindle	Stainless steel	X5CrNi18-10 DIN 17440	Type 17, 683/13	AISI 303
5	Cone Cone seal	Steel Teflon (PTFE)			
8	Packing gland	Stainless steel	X8CrNiS18-9 10088	Type 17 R 683/13	AISI 303
9	Packing washer	Aluminium			
10	O-ring	Cloroprene (Neoprene)			
11	Spring loaded Teflon ring	PTFE			
12	Bolts	Stainless steel	A2-70	A2-70	Type 308
13	Gasket	Fiber, Non-asbestos			
14	Hand wheel	Steel			
17	Cap	Aluminium			
18	Gasket for cap	Nylon (PA 6)			
19	Soft backseat	Teflon (PTFE)			
20	Identification ring	Stainless steel			
22	Disk spring	Steel			

Dimensions and weights

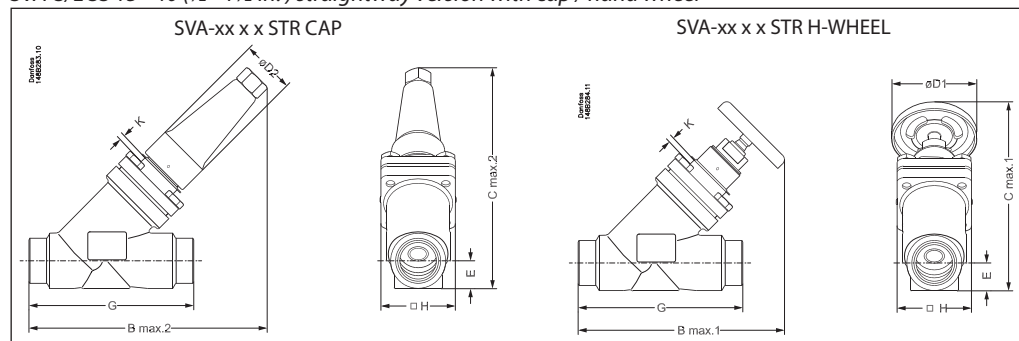
SVA S SS 15 - 40 (½ - 1½ in.) in angleway version with cap / hand wheel



Valve size		K	C _{max.1}	C _{max.2}	G	ØD ₁	ØD ₂	□H	Weight
SVA-S SS									
SVA-S SS 15-20	mm	4	178	189	45	60	38	60	1.4 kg
SVA-S SS ½ - ¾"	in.	0.16	7.00	7.44	1.77	2.36	1.5	2.36	3.1 lbs
SVA-S SS 25-40	mm	12	234	268	55	80	50	70	2.4 kg
SVA-S SS 1 - 1½"	in.	0.47	9.21	10.55	2.17	3.15	1.97	2.76	5.3 lbs

Specified weights are approximate values only.

SVA-S/L SS 15 - 40 (½ - 1½ in.) straightway version with cap / hand wheel

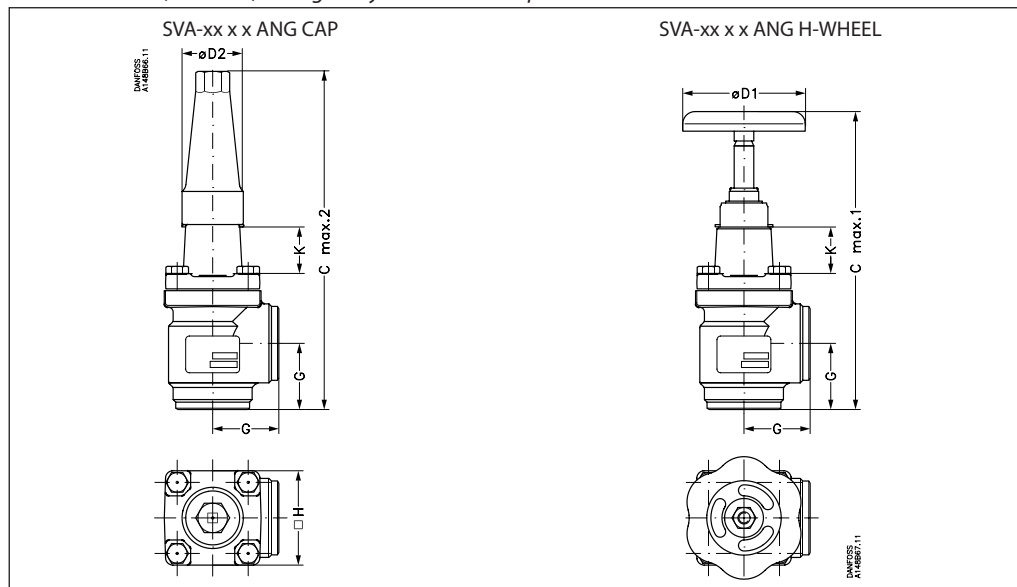


Valve size		K	C _{max.1}	C _{max.2}	B _{max.1}	B _{max.2}	E	G	ØD ₁	ØD ₂	□H	Weight
SVA-S SS												
SVA-S SS 15 - 20	mm	4	146	141	160	156	20	120	60	38	60	2.0 kg
SVA-S SS (½ - ¾)"	in.	0.16	5.74	5.55	6.30	6.14	0.79	4.72	2.36	1.50	2.36	4.4 lb
SVA-S SS 25 - 40	mm	12	199	208	212	222	26	155	80	50	70	3.0 kg
SVA-S SS (1 - 1½)"	in.	0.47	7.83	8.19	8.35	8.74	1.02	6.10	3.15	1.97	2.76	6.6 lb
SVA-L SS												
SVA-L SS 15 - 20	mm	63	188	184	202	198	20	120	60	38	60	2.0 kg
SVA-L SS (½ - ¾)"	in.	2.48	7.40	7.24	7.95	7.80	0.79	4.72	2.36	1.50	2.36	4.4 lb
SVA-L SS 25 - 40	mm	74	243	252	256	265	26	155	80	50	70	3.0 kg
SVA-L SS (1 - 1½)"	in.	2.91	9.57	9.92	10.08	10.43	1.02	6.10	3.15	1.97	2.76	6.6 lb

Specified weights are approximate values only.

Dimensions and weights

SVA-S SS 50 - 65 (2 - 2½ in.) in angleway version with cap / hand wheel



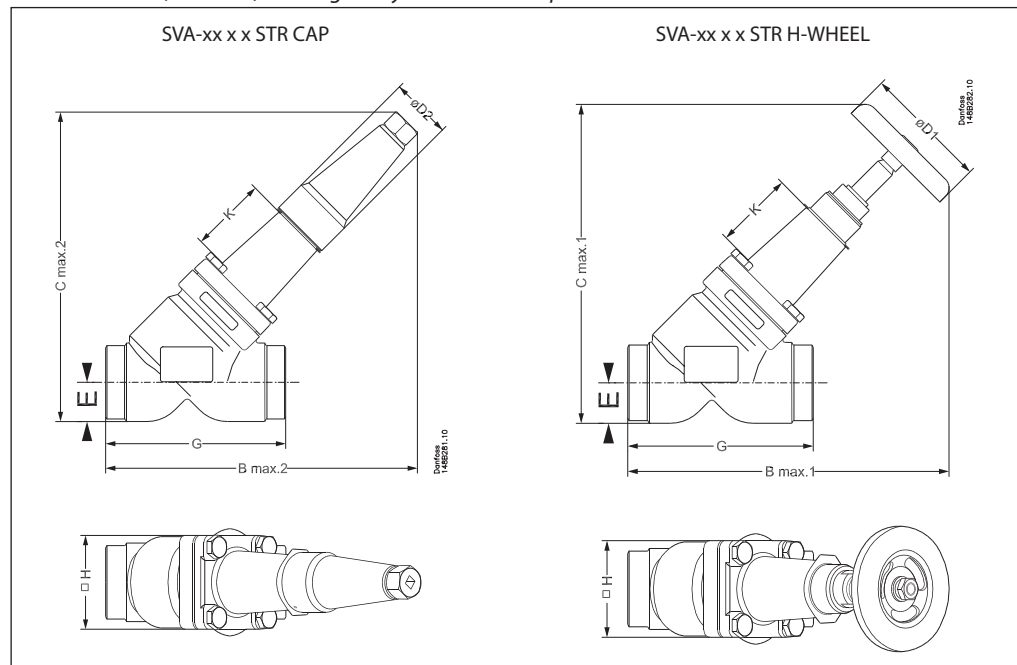
Valve size	K	C _{max.1}	C _{max.2}	G	ØD ₁	ØD ₂	□H	Weight
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SVA-S SS

SVA-S SS 50	mm	70	284	315	60	100	50	77	3.2 kg
SVA-S SS (2)	in.	2.76	11.18	12.40	2.36	3.94	1.97	3.03	7.1 lb
SVA-S SS 65	mm	70	310	335	70	100	50	90	4.8 kg
SVA-S SS (2½)	in.	2.76	12.20	13.19	2.76	3.94	1.97	3.54	10.6 lb

Specified weights are approximate values only.

SVA-S SS 50 - 65 (2 - 2½ in.) in straightway version with cap / hand wheel



Valve size	K	B _{max.1}	B _{max.2}	C _{max.1}	C _{max.2}	E	G	ØD ₁	ØD ₂	□H	Weight
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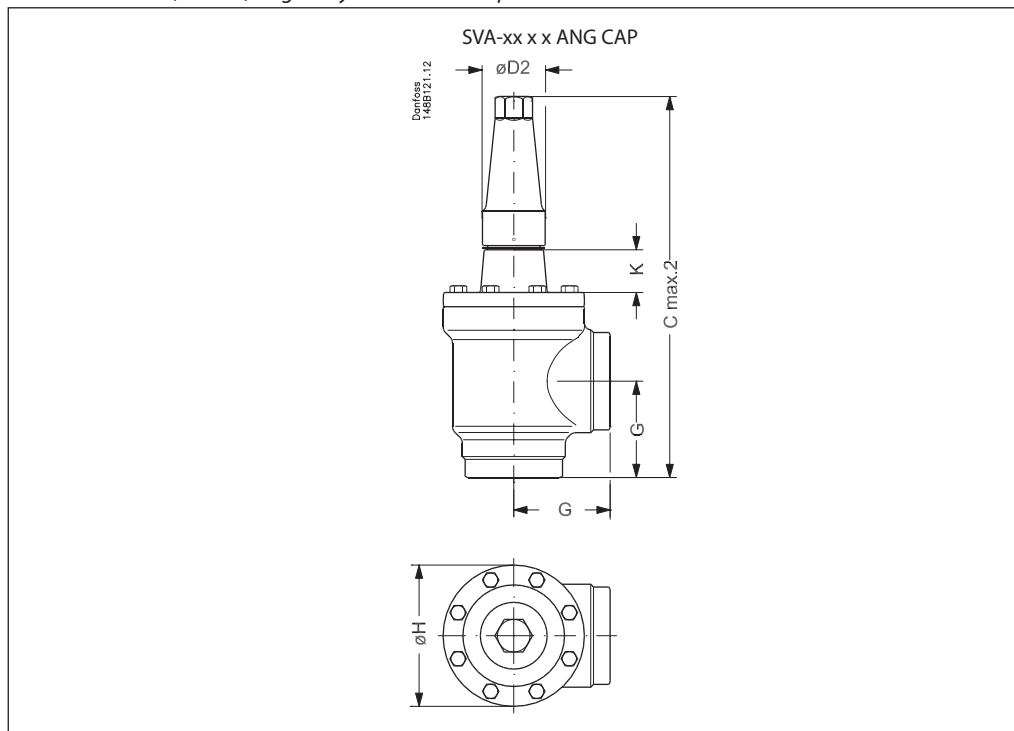
SVA-S SS

SVA-S SS 50	mm	70	259	259	257	257	32	148	100	50	77	4.2 kg
SVA-S SS (2)	in.	2.76	10.20	10.20	10.12	10.12	1.26	5.83	3.94	1.97	3.03	9.3 lb
SVA-S SS 65	mm	70	284	280	284	280	40	176	100	50	90	6.3 kg
SVA-S SS (2½)	in.	2.76	11.18	11.02	11.18	11.02	1.57	6.93	3.94	1.97	3.54	13.9 lb

Specified weights are approximate values only.

Dimensions and weights

SVA-S SS 80 - 125 (3 - 5 in.) angleway version with cap / hand wheel



Valve size		K	C _{max.2}	G	ØD ₁	ØD ₂		ØH	Weight
SVA-S SS									
SVA-S SS 80	mm	76	388	90	200	58		129	9.7 kg
SVA-S SS (3)	in.	3.00	15.28	3.54	7.87	2.28		5.08	21.4 lb
SVA-S SS 100	mm	90	437	106	250	58		156	15.3 kg
SVA-S SS (4)	in.	3.54	17.20	4.17	9.84	2.28		6.14	33.7 lb
SVA-S SS 125	mm	90	533	128	315	74		193	28.1 kg
SVA-S SS (5)	in.	3.54	20.98	5.04	12.40	2.91		7.60	61.9 lb

Specified weights are approximate values only.

Ordering

Please note that the type codes only serve to identify the valves, some of which may not form part of the standard product range. For further information please contact your local Danfoss Sales Company.

Type codes

Valve type	SVA-S/L SS	Shut-off valve	
Nominal size in mm		Available connections	
		D	A
(valve size measured on the connection diameter)	15	DN 15 (½)	x x
	20	DN 20 (¾)	x x
	25	DN 25 (1)	x x
	32	DN 32 (1¼)	x x
	40	DN 40 (1½)	x x
	50	DN 50 (2)	x x
	65	DN 65 (2½)	x x
	80	DN 80 (3)	x x
	100	DN 100 (4)	x x
	125	DN 125 (5)	x
Connections	D A	Butt-weld connection: DIN EN 10220 Butt-weld connection: ANSI B 36.19M	
Valve housing	ANG STR	Angle flow Straight flow	
Other equipment	H-WHEEL CAP	Hand wheel Cap	

Important!

Where products need to be certified according to specific certification societies or where higher pressures are required, the relevant information should be included at the time of order.

Ordering SVA-S/L SS

Example:
SVA-S SS 20 DIN angleway with hand wheel = **148B5377**

Important!

Where products need to be certified according to specific certification societies or where higher pressures are required, the relevant information should be included at the time of order.

SVA-S SS Angleway

Size		Type	MWP		Code number
mm	in.		bar	psi	
Butt-weld DIN (EN 10220)					
15	½	SVA-S SS 15 D ANG H-WHEEL	52	754	148B5289
15	½	SVA-S SS 15 D ANG CAP	52	754	148B5290
20	¾	SVA-S SS 20 D ANG H-WHEEL	52	754	148B5377
20	¾	SVA-S SS 20 D ANG CAP	52	754	148B5378
25	1	SVA-S SS 25 D ANG H-WHEEL	52	754	148B5486
25	1	SVA-S SS 25 D ANG CAP	52	754	148B5487
32	1¼	SVA-S SS 32 D ANG H-WHEEL	52	754	148B5566
32	1¼	SVA-S SS 32 D ANG CAP	52	754	148B5567
40	1½	SVA-S SS 40 D ANG H-WHEEL	52	754	148B5646
40	1½	SVA-S SS 40 D ANG CAP	52	754	148B5647
50	2	SVA-S SS 50 D ANG H-WHEEL	52	754	148B5753
50	2	SVA-S SS 50 D ANG CAP	52	754	148B5754
65	2½	SVA-S SS 65 D ANG H-WHEEL	52	754	148B5847
65	2½	SVA-S SS 65 D ANG CAP	52	754	148B5848
80	3	SVA-S SS 80 D ANG CAP	50	725	148B5928
100	4	SVA-S SS 100 D ANG CAP	50	725	148B6032
125	5	SVA-S SS 125 D ANG CAP	50	725	148B6126

Size		Type	MWP		Code number
mm	in.		bar	psi	
Butt-weld ANSI (B 36.19M SCHEDULE 40)					
15	½	SVA-S SS 15 A40 ANG CAP	52	754	148B5396
20	¾	SVA-S SS 20 A40 ANG CAP	52	754	148B5395
25	1	SVA-S SS 25 A40 ANG CAP	52	754	148B6477
32	1¼	SVA-S SS 32 A40 ANG CAP	52	754	148B5595
40	1½	SVA-S SS 40 A40 ANG CAP	52	754	148B5683

Size		Type	MWP		Code number
mm	in.		bar	psi	
Butt-weld ANSI (B 36.19M SCHEDULE 10)					
50	2	SVA-S SS 50 D/A10 ANG CAP	52	754	148B5754
65	2½	SVA-S SS 65 A10 ANG CAP	52	754	148B6448
80	3	SVA-S SS 80 D/A10 ANG CAP	52	754	148B5928
100	4	SVA-S SS 100 A10 ANG CAP	52	754	148B6035

ANG = Angleway
STR = Straightway

CAP = Cap
H-WHEEL = Hand wheel

SVA-S SS Straightway

Size		Type	MWP		Code number
mm	in.		bar	psi	
Butt-weld DIN (EN 10220)					
15	½	SVA-S SS 15 D STR H-WHEEL	52	754	148B5291
15	½	SVA-S SS 15 D STR CAP	52	754	148B5292
20	¾	SVA-S SS 20 D STR H-WHEEL	52	754	148B5379
20	¾	SVA-S SS 20 D STR CAP	52	754	148B5380
25	1	SVA-S SS 25 D STR H-WHEEL	52	754	148B5488
25	1	SVA-S SS 25 D STR CAP	52	754	148B5489
32	1¼	SVA-S SS 32 D STR H-WHEEL	52	754	148B5568
32	1¼	SVA-S SS 32 D STR CAP	52	754	148B5569
40	1½	SVA-S SS 40 D STR H-WHEEL	52	754	148B5648
40	1½	SVA-S SS 40 D STR CAP	52	754	148B5649
50	2	SVA-S SS 50 D STR H-WHEEL	52	754	148B5755
50	2	SVA-S SS 50 D STR CAP	52	754	148B5756
65	2½	SVA-S SS 65 D STR H-WHEEL	52	754	148B5849
65	2½	SVA-S SS 65 D STR CAP	52	754	148B5850

Size		Type	MWP		Code number
mm	in.		bar	psi	
Butt-weld ANSI (B 36.19M SCHEDULE 40)					
15	½	SVA-S SS 15 A40 STR CAP	52	754	148B5397
20	¾	SVA-S SS 20 A40 STR CAP	52	754	148B5398
25	1	SVA-S SS 25 A40 STR CAP	52	754	148B5399
32	1¼	SVA-S SS 32 A40 STR CAP	52	754	148B5596
40	1½	SVA-S SS 40 A40 STR CAP	52	754	148B5684

Size		Type	MWP		Code number
mm	in.		bar	psi	
Butt-weld ANSI (B 36.19M SCHEDULE 10)					
50	2	SVA-S SS 50 D/A10 STR CAP	52	754	148B5756
65	2½	SVA-S SS 65 A10 STR CAP	52	754	148B6449

Ordering

ANG = Angleway
STR = Straightway

CAP = Cap
H-WHEEL = Hand wheel

SVA-L SS Angleway

Size		Type	MWP		Code number
mm	in.		bar	psi	

Butt-weld DIN (EN 10220)

15	½	SVA-L SS 15 D ANG H-WHEEL	52	754	148B6546
15	½	SVA-L SS 15 D ANG CAP	52	754	148B6547
20	¾	SVA-L SS 20 D ANG H-WHEEL	52	754	148B6550
20	¾	SVA-L SS 20 D ANG CAP	52	754	148B6551
25	1	SVA-L SS 25 D ANG H-WHEEL	52	754	148B6554
25	1	SVA-L SS 25 D ANG CAP	52	754	148B6555
32	1¼	SVA-L SS 32 D ANG H-WHEEL	52	754	148B6558
32	1¼	SVA-L SS 32 D ANG CAP	52	754	148B6559
40	1½	SVA-L SS 40 D ANG H-WHEEL	52	754	148B6562
40	1½	SVA-L SS 40 D ANG CAP	52	754	148B6563

SVA-L SS Straightway

Size		Type	MWP		Code number
mm	in.		bar	psi	

Butt-weld DIN (EN 10220)

15	½	SVA-L SS 15 D STR H-WHEEL	52	754	148B6548
15	½	SVA-L SS 15 D STR CAP	52	754	148B6549
20	¾	SVA-L SS 20 D STR H-WHEEL	52	754	148B6552
20	¾	SVA-L SS 20 D STR CAP	52	754	148B6553
25	1	SVA-L SS 25 D STR H-WHEEL	52	754	148B6556
25	1	SVA-L SS 25 D STR CAP	52	754	148B6557
32	1¼	SVA-L SS 32 D STR H-WHEEL	52	754	148B6560
32	1¼	SVA-L SS 32 D STR CAP	52	754	148B6561
40	1½	SVA-L SS 40 D STR H-WHEEL	52	754	148B6564
40	1½	SVA-L SS 40 D STR CAP	52	754	148B6565